AMENDMENTS TO THE CLAIMS

1. (Currently amended) A sub-atmospheric downstream pressure control apparatus ~~(200)~~, characterized by:

a first flow restricting element (FRE), wherein said first FRE is an immobile flow restricting element~~(202)~~;

a pressure control chamber (PCC) ~~(204)~~ located in serial fluidic communication downstream from said first FRE;

a second FRE ~~(206)~~ located in serial fluidic communication downstream from said PCC;

a gas source ~~(208)~~; and

a flow controlling device ~~(210)~~ in serial fluidic communication downstream from said gas source and upstream from said PCC.

2. (Currently amended) A sub-atmospheric downstream pressure control apparatus as in claim 1 further characterized by:

a reactive gas source ~~(422)~~ connected in serial fluidic communication upstream from said PCC; and

an abatement element ~~(420)~~ located within said PCC.

3. (Currently amended) A sub-atmospheric downstream pressure control apparatus as in claim 1 further characterized by:

a third FRE ~~(504)~~ connected in serial fluidic communication downstream from said PCC;

an abatement chamber ~~(502)~~ connected in serial fluidic communication ~~downstream~~ upstream from said third FRE;

a reactive gas source ~~(506)~~ connected in serial fluidic communication upstream from said abatement chamber; and

an abatement element ~~(520)~~ disposed within said abatement chamber.

4. (Currently amended) A sub-atmospheric downstream pressure control apparatus as in claim 1 wherein a process chamber ~~(304)~~ is located in serial fluidic communication upstream from said first FRE;

said process chamber and said PCC ~~(308)~~ are formed as compartments within a single process vessel ~~(324)~~; and

said first FRE ~~(306)~~ is formed within the partition between said process chamber and said PCC.

5. (Currently amended) A wafer processing apparatus comprising a process chamber ~~(10)~~, said apparatus characterized by;

a process reactive gas supply line ~~(12)~~ from a process gas source in serial fluidic communication upstream from said process chamber;

an upstream flow control device located in serial fluidic communication upstream from said process chamber and downstream from said process gas source;

a first flow restricting element ~~(202)~~ located in serial fluidic communication downstream from said process chamber, wherein said first FRE is an immobile flow restricting element;

a pressure control chamber (PCC) ~~(204)~~ located in serial fluidic communication downstream from said first FRE;

a second FRE (206) located in serial fluidic communication downstream from said PCC;

a gas source ~~(208)~~; and

a flow controlling device ~~(210)~~ in serial fluidic communication downstream from said gas source and upstream from said PCC.

6. (Currently amended) A sub-atmospheric downstream pressure control apparatus as in claim 5 further characterized by:

a reactive gas source ~~(422)~~ connected in serial fluidic communication upstream from said PCC; and

an abatement element ~~(420)~~ located within said PCC.

7. (Currently amended) A sub-atmospheric downstream pressure control apparatus as in claim 5 further characterized by:

a third FRE ~~(504)~~ connected in serial fluidic communication downstream from said PCC ~~(200)~~;

an abatement chamber ~~(500)~~ connected in serial fluidic communication upstream from said third FRE;

a reactive gas source ~~(506)~~ connected in serial fluidic communication upstream from said abatement chamber; and

an abatement element ~~(520)~~ located within said abatement chamber.

8. (Currently amended) A sub-atmospheric downstream pressure control apparatus as in claim 5 wherein a process chamber ~~(304)~~ is located in serial fluidic communication upstream from said first FRE ~~(306)~~;

said process chamber and said PCC ~~(308)~~ are formed as compartments within a single process vessel ~~(324)~~; and

said first FRE is formed within the partition between said process chamber and said PCC.

9. (Original) A sub-atmospheric downstream pressure control apparatus as in claim 5 wherein said process is LPCVD.

10. (Original) A sub-atmospheric downstream pressure control apparatus as in claim 5 wherein said process is RIE.

11. (Original) A sub-atmospheric downstream pressure control apparatus as in claim 5 wherein said process is PECVD.

Claims 12 – 15 (Withdrawn)

16. (New) A sub-atmospheric downstream pressure control apparatus comprising:

(a) a first flow restricting element (FRE);

(b) a pressure control chamber (PCC) located in serial fluidic communication downstream from said first FRE;

(c) a second FRE located in serial fluidic communication downstream from said PCC;

(d) a gas source (208);

(e) a flow controlling device in serial fluidic communication downstream from said gas source and upstream from said PCC;

(f) a reactive gas source connected in serial fluidic communication upstream from said PCC; and

(g) an abatement element located within said PCC.